

Chapter 12

International 5 A Day Programs: A Smorgasbord

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INTRODUCTION

As evidence of the worldwide interest in the U.S. 5 A Day for Better Health Program, representatives from more than 25 countries gathered in Washington, DC, in October 1998 for the first 5 A Day International Symposium. A second symposium was held in January 2001. Convened jointly by the National Cancer Institute and its private-sector partner, the Produce for Better Health Foundation, both symposiums promoted networking and sharing of experiences among countries committed to implementing the 5 A Day model. A wide range of countries, some of which already had functioning 5 A Day-type programs, attended the symposiums to discuss their own efforts and to learn from the efforts and experiences of other nations.

This chapter provides a summary of nine country's efforts that are similar to the U.S. 5 A Day Program, presented in alphabetical order: Australia, Canada, Denmark, Germany,

Hungary, The Netherlands, New Zealand, Norway, and Sweden. These are programs for which data were available.

The experience of the U.S. 5 A Day Program and the international programs described in this chapter indicate that elements for the development of a successful program include the following:

- Governmental nutrition policy based on accepted scientific research;
- Strong public/private partnerships, including a respected and credible governmental or public entity and a committed network of food industry interests and resources;
- A simple, specific message;
- A clearly defined target audience; and
- A plan for program evaluation.

Table 1 presents the applications of the latter four elements in the nine programs discussed in the rest of this chapter.

Table 1. Application of Key U.S. 5 A Day Elements in International Efforts

<i>Country</i>	<i>Public/Private Partnerships</i>	<i>Strong Program Message in Place</i>	<i>Clearly Defined Target Audience</i>	<i>Planning and Evaluation Components</i>
Australia	Regional efforts: yes	Regional efforts: Fruit 'n' Veg With Every Meal; 2 Fruit 'n' 5 Veg Every Day	Regional efforts: household shoppers and children	Regional efforts: yes
	National effort: no	National effort: 7-a-day	National effort: general population	National effort: yes
Canada	Yes	Reach for It! then 5 to 10 a day . . . Are You Getting Enough?	24- to 45-year-old women, and children	Yes
Denmark	Yes	6 A Day	General population (those who eat fewer than six servings a day, or 94 % of the population)	Yes
Germany	Yes	5 am Tag (5 a Day)	General population, but particularly children, youth, and young mothers	Yes
Hungary	Yes	3x A Day	Children, youth, and adults who make food purchasing decisions	Yes
The Netherlands	Yes	Everyday 2 + 2	General public and primary school children	Yes
New Zealand	Yes	5+ A Day	Primary and preschool children, and household shoppers with children	Yes
Norway	Yes	N/A (Fruits and Vegetables in the School; Green Canteen worksite program)	Schoolchildren and worksite cafeteria staff	Yes
Sweden	No	Fruits and Vegetables Every Time You Eat	Schoolchildren, hospital and other health institution workers, and those in the food-service industry	Yes, but informal

AUSTRALIA

In Australia, significant efforts to increase the population's vegetable and fruit consumption began in the early 1990s. These efforts, similar to the U.S. 5 A Day campaign, started at the State¹ level with a collaboration between governmental health agencies and industry and were led by the Health Department of Western Australia (HDWA),

¹ Australia has six States (New South Wales, Victoria, Queensland, South Australia, Western Australia, and Tasmania) and two territories (the Northern Territory and the Australian Capital Territory). Responsibility and funding for various Government services, including health and education, are broadly defined by agreements between Commonwealth (national) and State/territory Governments, but States/territories have considerable autonomy in defining and implementing specific programs.

followed by the Victoria Food and Nutrition Program. Health authorities in New South Wales, Tasmania, Queensland, and South Australia also began to conduct brief smaller campaigns. The implementation of region-specific approaches was due to jurisdictional funding commitments in areas for which health authorities have responsibility rather than because of any real differences in culture or dietary habits.

In the mid-1990s, attempts were made by the public health and produce industry sectors to establish a national 5 A Day-type initiative. Unfortunately, these attempts were unsuccessful, largely due to the lack of infrastructure in both sectors to provide funding and management at a national level. In 1997, however, following broader initiatives to form the National Public Health Partnership,² the Strategic Inter-Governmental Nutrition Alliance (SIGNAL) was formed as the nutrition arm of the partnership in order to better coordinate nutrition initiatives between States and the Commonwealth and to provide a reference point for stakeholders to consult with the Government on nutrition issues. SIGNAL has representation from the Commonwealth, State, and territory governments and has a key responsibility to develop and implement the Eat Well Australia strategic framework for action in public health nutrition for the years 2000 to 2010.³ Promoting vegetable and fruit consumption is a high priority of this strategic framework.

Promoting increased vegetable and fruit consumption is a high priority of the strategic framework. SIGNAL has initiated reviews and a planning exercise for identifying target groups and the best mix of intervention approaches at the national, State, and local levels, as well as for

appropriating funding and building the proper infrastructure to support implementation. This work has built on past and existing campaigns to promote vegetables and fruit. Formal links have been established with key industry partners, including SIGNAL's representation in a national media campaign of the Australian Horticultural Corporation (an organization representing the interests of many grower groups) and a national vegetable and fruit promotion by Franklin's supermarket chain. Franklin's has one of the highest national market shares in supermarket sales; therefore, its involvement will have a significant impact on the reach of vegetable and fruit promotions.

Implementation of the Eat Well Australia vegetable and fruit strategy will rely on participation of key stakeholders, including the State/territory health departments, the nongovernmental health sector, vegetable and fruit industry grower groups, marketing authorities, and retailers. Key past and current initiatives of various stakeholders are summarized in Table 2 and below.

Western Australia Vegetable and Fruit Campaign

This multistrategy campaign, initiated by the Nutrition Program of HDWA and implemented in collaboration with Primary Product Promotions (a unit set up in Western Australia with Government and industry funds to promote fresh produce), began in 1990 and targeted adults ages 20 to 50 (Miller et al., 1996). The aims of the adult campaign were to increase awareness of the need to eat more vegetables⁴ and fruit as well as to increase their consumption in Western Australia. "Fruit 'n' Veg With Every Meal" was the message used in the first phase of the campaign. A more definitive message, "2 Fruit 'n' 5 Veg Every Day," was used in subsequent phases of the campaign. A "Buy in Season" message was also used in point-of-sale promotions. These promotions were jointly funded by HDWA and grower groups and conformed to protocols set by HDWA. They

² In October 1996, Australian health ministers from all jurisdictions signed a memorandum of understanding to form the National Public Health Partnership, comprising representatives of Commonwealth and State/territory Governments and key national information and research agencies. The broad objectives of this partnership are to improve collaboration between stakeholders, achieve better coordination and sustainability, and strengthen public health infrastructure and capacity.

³ Endorsement by the Australian Health Ministers Advisory Council is expected in August 2001. www.nphp.gov.au/signal/priority.htm#strategies

⁴ At least five average-sized (60- to 90-gram) servings of vegetables and two average-sized (120- to 150-gram) pieces of fruit and are recommended for adults (Miller et al., 1997). Average intake in the 1983 National Dietary Survey was one serving of fruit and almost four servings of vegetables (Cashel et al., 1986).

Table 2. Summary of Australian Campaigns

<i>Location</i>	<i>Campaign Title/Message</i>	<i>Target Audience</i>	<i>When Initiated</i>
Western Australia	Fruit 'n' Veg with Every Meal, then renamed "2 Fruit 'n' 5 Veg Every Day"	Adults 20 to 50 years old	1990
	Fruit 'n' Veg Eat It!	Children 6 to 12 years old and their parents	1995
Victoria	2 Fruit 'n' 5 Veg Every Day	Adults \geq 20 years old	1992
Tasmania	Eat Well Tasmania vegetable and fruit-specific promotion	General public	1997
New South Wales	Kit: "Charge through your day with 2 fruits and 5 vegetables"	General public	1999
National	7-a-day	General public	1999

included in-store signage, food demonstrations and tastings, distribution of recipe cards, and radio advertising. Buying in season is tied to availability and was promoted to help consumers obtain the best quality, flavor, and value for their money. In addition, other approaches were used to promote vegetables and fruit to household shoppers, including television, press, and billboard advertising; public relations activities; cookbooks and other publications; community activities; worksite- and school-based activities; and sponsorships.

Baseline consumer research was conducted in 1989 and early 1990 through a mailed questionnaire to gauge attitudes toward eating vegetables and fruit, the quantity that should be eaten to gain a health benefit, and barriers to greater purchasing and consumption. The sample, consisting of 316 males and 490 females 20 to 50 years old, was selected randomly from the electoral roll of Perth's metropolitan and selected rural areas. Results showed that people's lack of knowledge of the recommended intakes, as well as attitudes that they were already eating enough, were the main barriers to increasing vegetable consumption. Perceived high prices, poor quality, long-term habits, and not enough variety were the main barriers to increasing fruit consumption.

Evaluation efforts using mail and telephone surveys showed significant improvements between 1990 and 1994 in the knowledge and attitudes of

those consumers who had indicated (by means of a self-reported food frequency questionnaire) in a campaign-specific, baseline survey ($n = 809$) that they had the lowest consumption of vegetables and fruit (Pollard et al., 2000). Results of another survey, which is conducted every 5 years and monitors the total diet of approximately 1,500 adults in Western Australia, has shown that the level of vegetable consumption (based on a 24-hour recall) of the Western Australian sample increased by half a serving between 1990 and 1994. For the same time period, a decrease in vegetable consumption was seen on the national level (ascertained using apparent consumption, also known as food disappearance, data) (Pollard et al., 2000).

In 1995, the main target group for the HDWA vegetable and fruit campaign was changed to 6- to 12-year-old children and their parents. The message aimed at this target group was "Fruit 'n' Veg. Eat It!" In the first phase of the campaign, which lasted 6 months, parents were targeted to increase their confidence in providing vegetables and fruit that children would eat. Children ages 9 to 12 were specifically targeted in the second phase of the campaign. Phase 2 objectives were to increase positive attitudes among children toward vegetables and fruit and to increase the number of children who ask parents for them. Key strategies included television commercials that featured animated vegetable and fruit characters; the *Kids in the Kitchen* children's cookbook; a 28-episode

television cooking program and teaching resources for schools; and school-based promotions during Fruit 'n' Veg Week, held in the first week of September (spring) each year. The effort, targeted at 9- to 12-year-old children, is being implemented on a continuous basis with various TV advertising bursts and other strategies. Phase 1, targeted at 6- to 12-year-old children and their parents, was repeated in 1997 to reach new parents entering the target group and to reinforce the message with other parents.

After the first two phases, a 1996 evaluation of the children's campaign showed that 98 percent of children surveyed had overall campaign awareness, and 48 percent said that they took some action to eat more vegetables and fruit as a result of the campaign (HDWA, 1996). The survey sample ($n = 2,189$) was derived from randomly selected primary schools in the Perth metropolitan area and was representative of the types of schools found in the area (e.g., private, Government, Catholic), as well as of socioeconomic status. Aspects of the Western Australia campaigns for adults and children have been implemented in most Australian States.

Victorian Vegetable and Fruit Campaign

In 1992, Western Australia's 2 Fruit 'n' 5 Veg Every Day Campaign was adapted for use in the Australian State of Victoria, with increased emphasis on the involvement of various sectors, particularly the food-service and vegetable and fruit industries. The campaign was implemented by the Food and Nutrition Program, with funding from the Victorian Health Promotion Foundation, a Government-sponsored body that redirects a proportion of tobacco taxes into health promotion initiatives. The Melbourne Fresh Center Market Trust, a promotional unit connected to the major fresh produce market in Melbourne, Victoria, was also a partner in the campaign.

Strategies including television advertising and supermarket and community promotions were implemented in phases over 3 years. Time-series evaluations using annual surveys ($n = 510$ per series, consisting of adults randomly selected from telephone listings who were at least 20 years old) conducted from 1992 to 1995 showed that the level of public awareness and reported consumption, as well as beliefs about appropriate levels of

fruit and vegetable consumption, tended to parallel upsurges in mass media spending (Dixon et al., 1998).

In both the Western Australian and the Victorian 5 A Day-type efforts, recruitment of sectors outside the government health sector was slow. Even nongovernmental health sector organizations, such as the Cancer Foundation, were not convinced to join the effort in the early stages. Vegetable and fruit growers and marketing, processing, and retailer groups also were solicited as key partners. However, before they would commit, many groups needed additional information regarding the extent of the health sector's role in the campaign, as well as opportunities of which they could avail themselves as members of the produce industry in promoting their own products. Support by nongovernmental health agencies, such as the Cancer and Heart Foundations, grew as research evidence increased and awareness rose of the link between vegetable and fruit consumption and disease prevention. Other government entities, such as the Departments of Education and Agriculture, also became critical partners as momentum increased.

Eat Well Tasmania

Tasmania is a small southern island State of Australia. Eat Well Tasmania started in 1995 and was funded by the government through the Tasmanian Health Promotion Council. This program is managed by the Tasmanian Nutrition Promotion Task Force, comprising representatives from various government departments, the primary food industry (including representatives from the vegetable, fruit, dairy, meat, bread, and fish industries), and retail food groups. The goal of the Eat Well Tasmania project is to reduce the incidence of diet-related health problems and to increase the nutritional well-being of all Tasmanians. The strategic aims are to promote increased demand for healthy foods (not just vegetables and fruit), especially of Tasmanian origin; increase the level of cooperation between such sectors as food producers, manufacturers, retailers, health professionals, schools, and community organizations in promoting good nutrition and influencing dietary intake in Tasmania; and coordinate and raise the profile of activities that support the State's nutrition health goals and targets.

Within Tasmania, projects are diverse and are initiated by several sectors working together in various combinations. Discrete promotions of specific healthy foods are run as a component of the overall Eat Well Tasmania campaign. The promotion of vegetables and fruit, a high priority within the State, was the focus of just such a discrete campaign between April and October 1997. The unifying aspect that links the varied efforts is the Eat Well Tasmania logo, which can be used by approved affiliated projects, activities, and campaigns throughout the State.

Development of the Eat Well Tasmania project utilized the results of both a baseline statewide telephone survey on knowledge, attitudes, and food habits conducted in 1995 (n = 800; subjects 15 to 64 years old and stratified to represent age, gender, and region) and forums that were held in 1996 involving the public and key stakeholder groups. Annual statewide surveys and forums are used to evaluate efforts throughout Tasmania, including strategy-specific components (Seal, 1997). The collaborative infrastructure of Eat Well Tasmania has been adopted in the Eat Well South Australia campaign, which also places emphasis on environment and sustainable food supply, access to food, and nutrition projects that benefit children as well as low-income and non-English-speaking families.

New South Wales Health Fruit and Vegetable Promotion Project

New South Wales, the capital of which is Sydney, is the most heavily populated State of Australia. In 1999, New South Wales Health, the State health authority, promoted a new tool-kit resource for statewide use in local health areas⁵ to promote the message, "Charge through your day with 2 fruits and 5 vegetables." The kit provides a style guide that includes specifications for standard logos, presentation of printed promotional material, and use of the slogan. It also contains advice on contacting and working with the media; establishing partnerships with sectors such as agriculture, tourism, local councils, local growers, and

produce markets; conducting events such as open-farm days, to which the public is invited to participate in the activities of privately owned farms, and food-tasting festivals; and initiating projects to increase community access to sustainable supplies of vegetables and fruit. The contents of the tool kit draw on the resources and experience of the Western Australian and Victorian vegetable and fruit campaigns, as well as the Penrith Food Project⁶ and other efforts. (Penrith is a city that is an outer suburb of Sydney.) The Sydney Fresh Food Bowl Network, a coalition of stakeholders, including health, local government, consumers, growers, marketers, and retailers, oversees the Penrith project.

Australia's 7-a-day Program

Australia's 7-a-day vegetable and fruit program was launched in June 1999 to encourage Australians to eat more vegetables and fruit. It is a joint initiative between the Dietitians Association of Australia and Coles Supermarkets, one of the two largest sales-volume supermarket chains in the country, with stores in all States and territories. The resulting Coles 7-a-day program promotes the key message that Australians need to eat at least seven daily servings of vegetables and fruit—five servings of vegetables and two of fruit—to promote better health and to reduce the risk of disease. The program's objective is to increase Australians' consumption of vegetables and fruit by 0.25 serving each year.



The program has two functional components: research to monitor vegetable and fruit consumption and beliefs about recommended intake and an education and promotion campaign to encourage consumption of vegetables and fruit.

The educational component uses point-of-sale promotions in more than 440 Coles supermarket

⁵ State government management and delivery of health care is decentralized, based on geography and population, to local health areas.

⁶ A project funded by the local council government to increase supply and demand for affordable, nutritious, and safe food. The project is a partnership of food retailers, manufacturers, agricultural entities, community groups, and academic institutions that work on improving the local food system to better meet the needs of the local community.

stores nationally to encourage consumers to eat at least five servings of vegetables and two servings of fruit per day. Aspects of the point-of-sale campaign include brochures on seven featured vegetables and fruit each month, in-store demonstrations, competitions, and loyalty-card bonus promotions. There is a 7-a-day Web site (www.7aday.coles.com.au), as well as ongoing advertisements and copromotions in key women's and lifestyle magazines (Commonwealth of Australia Department of Health and Aged Care press release, 1999).

Telephone surveys commissioned by Coles in November 1998, 1999, and 2000 and published as the *Coles Fruit and Vegetable Index* (1999, 2000, 2001), researched a representative sample of Australians age 14 years and older. Respondents were asked what they considered to be healthy levels of vegetable and fruit consumption, their actual consumption, and the perceived health benefits of consuming vegetables and fruit. Results of the 1998 survey ($n = 2,506$) showed that only 10 percent of adult respondents believed that they should eat 7 servings of vegetables and fruit per day and that, on average, Australians ate just 4.1 servings of fresh vegetables and fruit daily and believed that this was enough to stay healthy.

Research for the second Coles index ($n = 2,601$) was conducted in November 1999. At the time of this survey, respondents also provided information on vegetable and fruit consumption by children ($n = 1,310$) under 14 years old. Findings from this survey showed increases in reported consumption of fresh vegetables and fruit, knowledge of recommended servings, and awareness of the health benefits of vegetables and fruit. Complete results of the second *Coles Fruit and Vegetable Index* were released in July 2000.

In November 2000, research for the third Coles index ($n = 2,602$) was conducted. At the time of this survey, respondents also provided information on vegetable and fruit consumption by children ($n = 1,110$) under 14 years old. Survey results showed increases in reported consumption of fresh vegetables and fruit from 4.1 servings per person per day in 1998 to 4.5 in 2000, and 21 percent of respondents believed they should be eating 7 servings or more per day and were aware of the health benefits of vegetables and fruit. Information about the results of each of the surveys can be obtained by contacting the Dietitians Association of Australia

at nationaloffice@daa.asn.au or by contacting the Coles National Office through its Web site (www.coles.com.au).

The 7-a-day campaign is currently supermarket-focused, with some supporting print media promotions. Commonwealth, State, and territory government initiatives are continuing in various settings. A major objective of the Eat Well Australia vegetable and fruit strategy is to promote integration so that the various initiatives of the government and nongovernmental sectors are complementary and represent a comprehensive approach to national vegetable and fruit promotion.

CANADA

The Canadian efforts to promote vegetable and fruit consumption predate and helped inspire the U.S. 5 A Day Program. In 1972, the Canadian Horticultural Council and the Canadian Fruit Wholesalers' Association formed the Fresh for Flavour Foundation (FFFF). The primary focus of FFFF was to give priority to the promotion of Canadian-grown products and to expand the produce market by increasing the per capita consumption of fresh vegetables

and fruit from 350 pounds (159 kg) per capita in 1972 to 400 pounds (182 kg).⁷

Over a 5-year period, the Foundation implemented a number of successful promotional campaigns, including Citrus Month, Winter Stew, Apple Month, Tropical Fruit Month, and Summer Salads. In conjunction with these efforts, the following milestones occurred:

- Late 1970s—The 400 pounds (182 kg) per capita target was achieved; FFFF increased the per capita target to 500 pounds (227 kg).⁸



⁷ Considering the wide weight variation for single servings of different vegetables and fruit (whether fresh, canned, frozen, or dried), it is estimated that each kilogram (2.2 pounds) of fresh produce consumed per capita is approximately equal to 10 servings of produce (1 serving of produce weighing, on average, 100 grams).

⁸ Measurement of consumption is based on food disappearance data for the general population.

- 1985—FFFF focused more on emphasizing the health benefits of fresh vegetable and fruit consumption as industry groups ran their own promotional campaigns.
- 1989—FFFF reached the 500 pounds (227 kg) per capita consumption target. The Canadian Fruit Wholesalers' Association changed its name to the Canadian Produce Marketing Association (CPMA), creating an integrated entity that better represents the interests of those comprising the industry (retailers, independent wholesalers, and growers/shippers).
- 1994—Agreement was reached to amalgamate FFFF into CPMA. This allowed for decreased overhead, increased control, better efficiency, and more effective and far-reaching programs to increase vegetable and fruit consumption, and resulted in the creation of the Reach for It! promotional program, described below.

Reach for It!

Reach for It! was a program designed to support the publication of Canada's Food Guide to Healthy Eating (Food Directorate, Health Protection Branch, Health Canada, 1992), which recommended that Canadians over the age of 4 eat 5 to 10 servings of vegetables and fruit each day. The food guide was based on Canada's *Guidelines for Healthy Eating*. These guidelines have been endorsed by such groups as the Canadian Cancer Society, the Canadian Dietetic Association, and the Heart and Stroke Foundation of Canada.

The goal of the Reach for It! program was to increase the per capita consumption of vegetables and fruit to 600 pounds per person by 2002. In 1991, Canadians were eating between three and five servings of vegetables and fruit daily. To reach this goal, servings would have to be increased by two each day. In order to attain this goal, the program focused on motivating consumers to increase their consumption of vegetables and fruit as part of a healthy and active lifestyle. Reach for It! provided retailers, food-service operators, and food and nutrition educators with tools for motivating their clients to increase their vegetable and fruit consumption. The number of promotions, new materials, and services provided to the target audiences depended on the vegetable and fruit industry's willingness to fund the program.

The program's strategy had a two-pronged approach:

- To distribute promotional materials and training information for use by the targeted audiences. Materials specific to seasonal promotions were available at minimal cost to cover printing and distribution.
- To license those who wanted to use the Reach for It! logo. The logo was trademarked to protect its use. Those who wished to use the logo on packaging or in advertising had to be licensed. Products and information connected with the Reach for It! logo reflected the low-fat message related to consuming vegetables and fruit. Technical assistance on this issue was offered to licensees.

With a projected lifespan of 5 years, the Reach for It! program grew and developed into 5 to 10 a day! Are you getting enough? This is a direct-to-consumer advertising campaign based on partnerships both inside and outside the produce industry. The campaign, scheduled to run over 3 to 5 years, was implemented in June of 1999.

5 to 10 a day! Are you getting enough? Campaign

In November 1998, a trilateral partnership (CPMA, Canadian Cancer Society, and the Heart and Stroke Foundation of Canada) conducted focus group testing at seven sites across Canada. The findings from these tests concluded that messages to the public should address the issues of cost, convenience, and ease related to the consumption of vegetables and fruit. Consumers asked for meal ideas and recipes and received tips and suggestions on how to fit vegetables and fruit into their hectic lifestyles.

Using data collected from those focus groups, CPMA developed a social marketing campaign in partnership with the Canadian Cancer Society and the Heart and Stroke Foundation of Canada. The effort is considered to be one of the most extensive healthy lifestyle campaigns ever launched in Canada, and it emphasizes the short- and long-term benefits of behavior change rather than the negative consequences of current behavior. The campaign clearly explains why consumers should be eating 5 to 10 servings a day and provides information on how to eat more vegetables and fruit.

The campaign targets adult females, because they represent 69 percent of those making grocery buying and daily cooking decisions for their families. A particular focus is placed on those women ages 25 to 45 who have less than a university education and are of average income status. An advisory committee guides the campaign. Committee members include executive representatives from the trilateral partners as well as from the National Institute of Nutrition, the Dieticians of Canada, and the City of Toronto Department of Public Health.

A variety of media are used to deliver messages, including television, radio, and public service announcements; a Web site (*www.5to10aday.com*); brochures; in-store displays; and retail grocery flyers. The Canadian Cancer Society provides a toll-free number so that consumers can speak with a trained operator and obtain additional information. Regional public health offices also disseminate information and provide literature to their constituents through school boards, public health units, and workplace cafeterias, among other venues. Tables 3 and 4 demonstrate a summary of the total number of impressions⁹ and the dollar value of the combined elements of the campaign over its first 14 months.

If this campaign were to be evaluated against traditional marketing measurements, based on the timeframe of July 1999 through July 2001, it would be safe to estimate that more than 5 billion impressions have been created and that the advertising value of the campaign is more than \$14.3 million. Although impressions do not reflect the number of people reached, they do reflect the number of potential times that consumers may have been exposed to the campaign's messages. Through the use of various vehicles, the campaign is making huge strides in reaching consumers and is beginning to get its messages across in a repetitive and consistent manner.

Plans for the 5 to 10 a day! Are you getting enough? campaign for the year 2000 and beyond include the following:

- Utilizing an integrated mass media advertising campaign, which delivers a direct-to-consumer promotional program focused on user-friendly

⁹ Impressions are the number of potential times consumers may be exposed to a message.

Table 3. Impressions

<i>Medium</i>	<i>Number of Impressions</i>
Public service announcements	5,061,965,000
Print editorial coverage	3,860,000
Electronic editorial coverage	34,500,000
Campaign materials	84,250
1-888 Cancer Infoline	2,670
Web site	800,000
Total	5,101,211,920

Table 4. Dollar Value¹⁰

<i>Medium</i>	<i>Value</i>
Public service announcements (30 seconds)	\$8,817,120
Public service announcements (90 seconds)	\$2,665,000
Print editorial coverage	\$98,576
Electronic editorial coverage	\$158,275
Campaign materials	\$11,726
1-888 Cancer Infoline	N/A
Web site	\$169,374
Total¹¹	\$11,920,071

information about healthy eating related to vegetables and fruit;

- Producing and disseminating new public-service announcements, including 90-second educational television spots;
- Creating new specialized consumer materials (such as a brochure created in conjunction with the Canadian Medical Association for distribution through their membership to patients) and a series of five tear-out recipe cards

¹⁰ Values provided are in U.S. dollars (1 U.S. \$ = 1.53 Canadian \$, July 2001).

¹¹ As of September 2000.

inserted into *Chatelaine* magazine (a women's publication with 1 million readers) that would contain campaign information and logos and feature a campaign sponsor's product;

- Continuing the development of the Web site to include an interactive vegetable and fruit recipe database; and
- Conducting meetings with leaders in the health field to educate them on the campaign and obtain their input regarding the content, format, and distribution of future campaign materials.

DENMARK

In September 1998, the Danish Veterinary and Food Administration (DVFA), in cooperation with the Danish Heart Association, Danish Cancer Society, National Board of Health, and a major Danish food retail chain, published new recommended daily intakes for vegetables and fruit. It was recommended that all healthy persons older than 10 eat a total of 600 grams of vegetables and fruit daily (DVFA, 1998). The recommendation proposes "6 A Day—eat more fruits and vegetables" to be the core message.

This goal is twice the amount consumed in 1995, where a dietary survey found that the average intake was 277 grams per day and that only 4 percent of the population ate 600 or more grams of vegetables and fruit a day. A serving size

of 100 grams was chosen for those vegetables and fruit that do not grow in single-serving-size units; 100 percent juice can count as a maximum of one serving per day, and potatoes are not included.

6 A Day Research Project

In March 1999, the 5-year 6 A Day Research Project was launched as a cooperative effort between DVFA, the Danish Cancer Society, the Danish Produce Marketing Board, and the Research Association for Processed Fruits and Vegetables (www.6aday.com). The funding for this effort comes from a combination of Government aid and support from private companies and organizations.

The Danish Cancer Society and DVFA have worked actively to identify and analyze barriers to increasing the intake of vegetables and fruit. The three main barriers that have been identified are as follows:

1. The population's widespread misconception that they already consume an adequate amount of vegetables and fruit (Buus et al., 1995);
2. The lack of access to vegetables and fruit and the assumption that people will eat more of them if only they were more easily accessible; and
3. The lack of time available for meal preparation.

As a result, the 6 A Day Research Project focuses on vegetable and fruit availability and accessibility and on convenience products. The aim of the project is to develop and test concepts and methods that make it easier for individual consumers to acquire and eat more vegetables and fruit. Further goals are to develop methods that would encourage consumers' purchases of vegetables and fruit in retail settings.

Four projects will examine the effects of vegetable and fruit availability on consumption rates in different targeted audiences, including children at school, employees at work, and those in the food-service industry (such as worksite and hospital cafeteria workers). Researchers will also investigate the feasibility and impact of providing a weekly supply of vegetables and fruit to select families.

Two of the four projects will, in cooperation with the food retail-trade sector, investigate the potential for significantly increasing vegetable and fruit purchases through in-store activities, improved product quality, sales techniques, and improved marketing. Also, the benefit of better trained and better educated retail staff will be evaluated.

Retail projects are being conducted in the small town of Sønderborg. Results will be evaluated by measuring changes in the supply of vegetables and fruit in the individual shops. At the same time, 500 telephone interviews will be conducted 4 times a year in Sønderborg to evaluate any changes in self-reported intake of vegetables and fruit.



6 A Day Campaign

The 6 A Day recommendations from 1998 and results of the 6 A Day Research Project are expected to form a strong basis for a future national 6 A Day campaign. Up to now, DVFA, the Danish Cancer Society, the Produce Marketing Board, and a number of individual companies and organizations have integrated the 6 A Day message into their existing nutrition education programs and marketing activities. There are also a number of campaign activities that are ongoing and some that are under preparation. Examples of some of these activities include School Fruit Day as part of Europe Against Cancer Week, the use of posters and dissemination of brochures and recipe booklets in retail shops, and the development and distribution of cookbooks for use by restaurants and workplace cafeterias. In addition, a national-level monitoring effort has been set up to gauge changes in intake and awareness of the 6 A Day message.

So far, however, there is no coordinated, generic 6 A Day campaign in Denmark. A process has been initiated to ensure that relevant partners on both the health and the industry side get motivated, involved, and committed to an anticipated national 6 A Day campaign. Fundraising for such an effort has begun, and the formation of a campaign strategy and communications plan is under way.

GERMANY

The primary goal of Germany's 5 am Tag (5 a Day) campaign is to improve the population's health by increasing the consumption of vegetables and fruit to at least five servings a day. The campaign, which was initiated by the German Cancer Society (Deutsche Krebsgesellschaft), was kicked off in June 2000 and is targeted to the general population, but particularly to young mothers between 25 and 45 years of age and to children. Several of the campaign's partners will also focus efforts to select target groups—for example, health departments will direct information to their employees, and food stores will direct information to their customers.

The 5 am Tag campaign has support from the scientific community, including leading

nutritionists from some of the participating health organizations, such as the University of Stuttgart-Hohenheim and the Institute for Nutrition Research, Karlsruhe. Members of this community have been responsible for developing key campaign guidelines and components, such as the key campaign message (Eat more fruits and vegetables—At least 5 a day to keep you fit and healthy) and specific nutrition recommendations. These include guidelines for the inclusion of different types of vegetables and fruit, what constitutes an appropriate serving size (e.g., one serving of fruit = 100 to 200 grams, one serving of dried fruit = 25 grams, one serving of raw vegetables = 100 to 200 grams), and the acceptable sugar and fat content of processed foods and recipes. The 5 am Tag organization (written as *5 am Tag e.V.*¹² in Germany), headquartered in Frankfurt, was created to:



- Oversee the licensing of the campaign's logo and slogan to organization members and partners for use in their own marketing activities;
- Implement centralized public relations and advertising activities;
- Develop and supply information and advertising materials, such as brochures, flyers, and posters, that can be used by all members and partners; and
- Coordinate the activities of 5 am Tag members and partners to create synergistic efforts.

As of September 2000, the 5 am Tag organization comprises more than 40 partners¹³ from both private and government health institutions, including the German Cancer Society, and those representing commercial (e.g., trade, producers, food industry) sectors. Depending on the type, size, and annual revenue of the prospective institution or company, a fee is assessed to become a 5 am Tag partner either in the member or licensee category. Partners in the member category actually belong to the 5 am

¹² The abbreviation *e.V.* stands for "eingetragener Verein," which means "registered association."

¹³ The term "partners" encompasses those entities that are either 5 am Tag *e.V.* members or licensees.

Tag organization (licensees do not belong to the organization) and can take part in certain 5 am Tag e.V. meetings. Members of the 5 am Tag e.V. include health organizations, public corporations, the produce sector, and commercial partners.

The fee paid by partners in either the member or licensee category legally allows them to use the 5 am Tag logo and message on their own products and for their own activities. In addition, members and licensees from the commercial sector (e.g., trade, hotel, restaurant, catering) have to pay a license fee for each unit location (e.g., retail shop, outlet, hotel, restaurant). For each unit location, the amount for members is 50 deutsche marks, and the amount for licensees is 100 deutsche marks (1 deutsche mark = 0.43 U.S. dollar, November 2000).

All 5 am Tag partners must agree to abide by the guidelines and scientific principles of the campaign. Funding for the 5 am Tag e.V. and for the campaign comes from fees that license the use of the slogan and logo.

Initial activities that have been or will be initiated by the 5 am Tag organization include the following

- An initial 5 am Tag press conference was held on May 24, 2000.
- The 5 am Tag campaign kickoff on June 1, 2000, utilized free air time on a television show called *Gesundheitsmagazin Praxis* (a program that focuses its content on health-related issues) to introduce the campaign to the public.
- The following activities were planned to occur sometime after the campaign's kickoff—distribution of brochures, flyers, and posters to 5 am Tag partners (nonpartners will be able to acquire these materials for a higher fee than partners); a 5 am Tag home page; additional press efforts; development and distribution of point-of-sale materials; and development of sales promotions.
- Subsequent activities planned in support of the campaign include—5 am Tag product merchandising, radio and television spots, events such as 5 am Tag promotion weeks, initiatives of individual partners; acquisition of additional partners (members and licensees), and evaluation of the campaign's success based on market research.

HUNGARY

Hungary's 3x A Day program was launched in late December 1997 by the Hungarian Fruit and Vegetable Board (HFVB), a membership-based, nonprofit organization with more than 6,500 members. HFVB represents the Hungarian vegetable and fruit industry, including producers, traders, processors, and consumers, and its objectives are to

- Identify problems in the vegetable and fruit industry and forward correctional recommendations to the State (Government offices at the national level);
- Collect and analyze market and price information and predict trends;
- Enhance, organize, and manage the marketing of fresh and processed vegetables and fruit;
- Publish and distribute reports on lobbying, marketing efforts, surveys, and statistical information;
- Work out conditions for establishing produce organizations that support the needs of the European Union in acquiring both qualitative and quantitative information about produce production; and
- Maintain connections with domestic and foreign organizations and research institutes.

The goals and objectives of the 3x A Day program are to 1) increase public awareness about the role that vegetables and fruit play in health and 2) encourage people to eat more Hungarian-grown produce, thereby creating a growing market for these products. The campaign's slogan, "Have fruits and vegetables 3 times a day for your health," supports one of the recommendations in Hungary's food pyramid—each person should eat as many vegetables and fruit as possible during the three main meals, with the goal of consuming 400 to 800 grams of vegetables and fruit daily.

HFVB has several 3x A Day program partners. The Hungarian Collective Agricultural Marketing Center Public Benefit Company of the Ministry of Agriculture and Regional Development is a government partner that provides financial support to



the program. Nongovernmental health sector partners include the National Institute of Food Hygiene and Nutrition, which makes recommendations for a healthy diet and supplies the program with nutrition information, and the National Service for Public and Municipal Health. The latter has offices across Hungary that are used to reach consumers directly. HFVB members also support campaign programs and activities. About 50 percent of the funding for the program comes from the government, with the other 50 percent coming from the produce sector, mainly from supermarkets. The target audiences for the program are children 3 to 6 years old; children 7 to 13 years old; youth 14 to 18 years old; and adults, particularly those who make food purchasing decisions.

The 3x Day program is implemented using a variety of approaches:

- A show for kindergarten children informs them about terms, such as nutrients and vitamins, as well as about the importance of physical activity.
- Newsletters that are sent to elementary school students about three times a year draw their attention to healthy diets. These newsletters are prepared by the National Institute of Food Hygiene and Nutrition.
- Monthly taste tests are conducted for the general public in certain grocery stores. During a taste test, consumers can try a new product, such as a new salad mixture, and get recipe cards and other written information about the 3x A Day program.

Although a campaign targeted to high school students has not been implemented at this time, HFVB is planning to use magazines as a major communications vehicle for this audience. (In Hungary, there are free special magazines that are distributed in high schools, and they are typically very well received by teenagers.) HFVB also uses advertisements and other public relations activities to promote a healthy diet to the program's various target audiences.

Evaluation Efforts

In the summer of 1999, a survey was conducted by the Universitas Corporation, a private-sector business, to collect information on vegetable and fruit consumption in Hungary. The survey was

conducted as a part of the 3x A Day program to investigate Hungarians' opinions and eating habits with regard to vegetables and fruit. This survey used individual interviews conducted in shopping malls and incorporated 24-hour recall-type questions, in addition to queries regarding personal and environmental factors that influence produce purchase decisions. The sample of 1,500 adults, ages 18 to 65, was drawn randomly and weighted to be representative of Hungary as a whole. Goals of the survey were to collect data that could be used as a benchmark in future evaluations, to provide an estimation of daily average per capita consumption (size and number of servings) of fresh produce, and to gain an understanding of the factors that influence decisions about purchasing fresh produce.

The survey found that Hungarians had a fair degree of awareness of the health benefits of fresh produce—79 percent of respondents considered vegetables to be healthy foods, and 69 percent thought the same about fruit. Survey participants revealed that 49.5 percent consumed produce at breakfast, 60.2 percent at lunch, 66.8 percent at dinner, and 47 percent when snacking. As a result of the survey, it was estimated that the average Hungarian consumes three servings of produce a day, based on the assumption that a serving of produce is between 100 to 150 grams. Using the same assumption about serving size, this finding is the same as that supported by food consumption data collected since 1934, and most recently in 1995, showing that produce consumption has remained virtually unchanged. Of note, researchers for the 1999 survey observed that most Hungarians are not clear about what constitutes a serving.

Survey participants cited good taste as the main reason that they consume fresh produce. Less important reasons given were for weight control or reduction and the fact that vegetables and fruit are consistently available (present) in most homes. People said that they did not think it was difficult to access vegetables and fruit in restaurants and felt that stores offered a good selection of produce. The main reason given as to why people do not eat more vegetables and fruit was the cost—55 percent think that produce is expensive. Those who did not like vegetables and fruit indicated that they always chose other foods if they had a chance to do so.

Based on the findings of the 1999 survey, HFVB believes that there is still a lot of work to be done to improve the overall vegetable and fruit intake in Hungary. As a result, HFVB has reviewed the 3x A Day program and has started to design a new campaign that will include more efficient ways of bringing health information into people's homes. Implementation of this promising new program is anticipated to occur in early 2001.

THE NETHERLANDS

The Fruit and Vegetable Bureau (FVB) is a communications and public relations agency funded by the Product Board for Horticulture in Holland. The primary task of FVB is to help stop the consumer decline in vegetable and fruit consumption. To achieve this objective, a communications strategy was established in 1995 in consultation with communications experts from the vegetable and fruit sector and from The Netherlands Nutrition Centre (NNC). NNC was established and funded by the Dutch Government and is similar, in some ways, to the U.S. Food and Drug Administration. Responsibilities of the NNC include translating government nutrition advice into consumer guidelines, organizing campaigns to stimulate healthy eating habits in the population, and providing answers to questions from consumers about food and nutrition in general.

The vegetable and fruit communications strategy that was developed resulted in a generic campaign called Do Good, Feel Good with Fruits and Vegetables, which began in 1995. As part of this campaign, FVB works cooperatively with organizations such as NNC, the Dutch Cancer Society, The Netherlands Heart Foundation, and the Dutch Association of Dietetics.

The first 3 years of the campaign were primarily focused on portraying a positive image of vegetables and fruit and on the influence that they have on health and vitality. The objective of the campaign is to disseminate information and optimize the public's awareness of the guideline for vegetable and fruit consumption—consume 200 grams of vegetables and 200 grams of fruit daily—Everyday 2 + 2. To support this objective, FVB undertakes generic activities that promote the

consumption of vegetables and fruit in all forms—fresh, processed, imported, and domestic.

During National Fruit and Vegetable Week, which takes place annually each spring (another promotional period is held each fall), FVB plans many activities in cooperation with various entities, such as stores and health organizations. Radio and television promotions are also used during these periods to focus attention on vegetables and fruit. During the promotional periods, for example, FVB publishes a newsletter with information about its activities and distributes it among dietitians. For the retail trade, FVB publishes a separate newsletter each spring and fall that provides information about the campaign's activities as well as the promotional materials that can be ordered. Examples of activities conducted by those in the retail trade include in-store produce display contests, in-store stir-fry demonstrations, sales of booklets with information about vegetables and fruit, and coloring contests for children.

Efforts Targeted to Primary Schools

The Fruit and Vegetable Break aims to provide all primary school students with daily vegetable and fruit snacks during a 1-week period. The objective of the break is to show children that vegetables and fruit can be a tasty and healthy snack.

In October 1996, the Fruit and Vegetable Break was organized as a pilot project at primary schools in the Rotterdam area. For the purpose of evaluation, questionnaires were provided to students and teachers in the highest primary-school classes, grades 7 and 8. The questionnaires contained queries not only about the break but also about knowledge and attitudes regarding vegetables and fruit.

According to the evaluation, which gathered information from several hundred students, 51 percent indicated that they enjoyed eating vegetables, and 85 percent said that they enjoyed eating fruit. The children stated that eating vegetables and fruit is important because “there are vitamins in fruits and vegetables,” “you get energy from them,” and “my mother says I should.” When students were asked if they sometimes brought vegetables, fruit, or fruit juice to school, 42 percent answered affirmatively for vegetables, 79 percent for fruit, and 69 percent for fruit juice.



As a result of the break activities, 20 percent of the students participating in the evaluation said that they were planning to bring vegetables to school more often, 35 percent said they would possibly do this, and 14 percent said they would do this only if their parents gave vegetables to them. Regarding fruit, 46 percent said they were planning to bring fruit to school more often, 26 percent did not know for sure, and 10 percent said they would bring fruit more frequently only if their parents gave it to them. About 40 percent of the students said that they were planning to bring fruit juice to school more frequently.

The teachers rated the Fruit and Vegetable Break with a score of more than 8 on a scale of 1 to 10. Of 25 teachers participating in the evaluation, 63 percent stated that encouraging vegetable and fruit consumption at school was important and felt that the effort had been effective.

More than half of the teachers agreed with the statement that it is a task of the schools to encourage healthy eating habits. About 90 percent of the teachers said that they wanted to participate again in the break activities. The evaluation also showed that an attempt must be made to involve parents more closely with the project. At the beginning of both 1997 and 1998, all primary schools in The Netherlands were given the opportunity to sign up for the break if they joined in the National Fruit and Vegetable Week activities. Signing up for the break would entitle the school to receive vegetables and fruit for a week. Twenty-five schools were selected to join the break campaign for free.

The most recent survey (a representative sample of 2,000 households) of food consumption in The Netherlands, conducted in 1997 and 1998, revealed that young people (ages 4 to 21) have been eating between 10 to 30 percent fewer vegetables and fruit in recent years than did that age group in 1987 and 1988. This means that young people are consuming 30 to 50 percent fewer vegetables and about 50 percent less fruit than currently recommended. To correct this development, the Fruit and Vegetable Break was organized at 50 primary schools during the annual National Fruit and Vegetable Week in 1999. The intention of this activity was to initiate a daily break for the entire school year, during which primary-school children would receive a serving of a vegetable or fruit. The produce would be supplied by a wholesaler, shop owner, or farmer near

the respective school, and students' parents would pay a small amount of money to help cover the cost. Unfortunately, there have been some problems getting the break project up and running. As a result, FVB has efforts underway to convince the Dutch Government and the European Commission to provide financial support for the break project, because it provides a great opportunity to increase consumption of vegetables and fruit by children.

Lesson Materials

A lesson package called *Do Good, Feel Good with Fruits and Vegetables*, intended for use by teachers in primary education, has also been put together in cooperation with NNC to combat the declining consumption of vegetables and fruit by young people in The Netherlands. The package consists of 12 lessons that provide materials to help teachers educate their students, in an enjoyable way, about eating vegetables and fruit. The lessons focus around a main theme of "fruits and vegetables keep you fit and healthy; they are tasty and easier to prepare than you think," and support the central message, "Everyday 2 + 2." In addition, they incorporate opportunities for involving parents. The *Do Good, Feel Good with Fruits and Vegetables* materials are part of the campaign of the same name and link up with lesson materials that were produced by the NNC in 1997. A new set of lesson materials will be released in 2001.

Evaluation Efforts

Public awareness of the message Everyday 2 + 2 is being evaluated by a nongovernmental research bureau. Using a representative sample, this bureau regularly conducts phone interviews and questions approximately 1,000 people about the Do Good, Feel Good with Fruits and Vegetables campaign. The results of each study are compared with the previous results. Following the start of the campaign in 1995, an evaluation showed that 17 percent of the target group of shoppers between 25 and 50 years of age already were aware of the 2 + 2 guideline. Following the end of the first campaign period in 1996, nonassisted (spontaneous) awareness in the same target group rose to 33 percent. An additional 27 percent of this target group of shoppers, when given some assistance remembering, were aware of the 2 + 2

guideline. Taken together, spontaneous and assisted awareness totaled 60 percent. In 1998, the combined spontaneous and assisted levels of guideline awareness reached 71 percent.

It appears that increasing public awareness of the Everyday 2 + 2 message beyond the 71 percent mark will be difficult. More than 75 percent of consumers in The Netherlands still believe that they eat sufficient amounts of vegetables and fruit. The number of people who decided that they eat too few vegetables and fruit is growing, however. Also increasing is the number of consumers who understand the guideline and have begun to think about their own eating behavior regarding vegetables and fruit.

In addition to the overall message-awareness evaluation and the break effort, a number of activities have been evaluated following completion, typically by means of a questionnaire. For example, evaluation of the newsletters showed that they were highly appreciated by their respective target groups. In-store stir-fry demonstrations were effective but very expensive in terms of the materials and effort needed to implement them, particularly for the number of people reached, which is relatively small.

NEW ZEALAND

In New Zealand, the 5+ A Day campaign is funded by United Fresh, Inc., a nonprofit organization made up of companies from the fresh produce industry. United Fresh deals with many issues within the industry, and the 5+ A Day efforts fall under the promotions umbrella. The campaign was launched in 1994 and is endorsed by national health agencies such as the National Heart Foundation, Nutrition Foundation, Cancer Society, and the New Zealand Ministry of Health, all of which help to disseminate the 5+ A Day message. The campaign's primary target group is schoolchildren, with a secondary target audience of household shoppers with children.

Nearly all of New Zealand's primary schools and preschools participate in the annual 5+ A Day Week, which typically is held in October. In

preparation for this week, United Fresh sends resources to the schools that enroll in the event. These resources support the school curriculum in New Zealand and provide teachers with lessons centered on fresh vegetables and fruit. United Fresh also provides teachers with other materials, such as posters, stickers, and recipes, that encourage them to teach children the benefits of including fresh vegetables and fruit in their daily diet.

A recent evaluation in schools by United Fresh revealed that 92.5 percent of teachers found the United Fresh resources either extremely or very useful. It also showed that 85 percent of teachers use these resources throughout the school year and do not confine their fresh vegetable and fruit lessons to 5+ A Day Week.

New Zealand's sports heroes—the national rugby team and the national netball (similar to American basketball) team—donate their time to the campaign. In 1999, a television commercial was produced using the rugby team, and point-of-sale information was developed using the netball team. The point-of-sale material was distributed in camera-ready (ready for printing) form to participating supermarkets. The stores then customize and print the materials for use in their produce departments and in print circulars. In addition, United Fresh produced small posters that fit into supermarket price ticketing systems (shelf-label holders) to ameliorate space problems and to ensure that supermarkets used the materials.

In February 1995, 5 months after the campaign's launch in September 1994, benchmarking (baseline) research showed that New Zealanders were eating 3.9 servings of vegetables and fruit per day. In February 1999, followup research showed that this total had increased to 4.4 servings per day, with 32 percent

of those questioned saying that this was a direct result of the 5+ A Day campaign. These surveys each had a total sample size of 500. Information was gathered from 15 locations across New Zealand by an international research company. Interviews were conducted over the phone, and 50 percent of the sample met the criteria of being the person in the household who has primary responsibility for food shopping; the other 50



percent of respondents met the criteria of having children that were 17 years old or younger. The reason for including respondents who met the latter criteria is that since 1994, the 5+ A Day campaign has targeted children in schools. The 1999 survey was also skewed toward Native (indigenous) New Zealanders to get a better idea of their dietary habits. In addition to these surveys, research conducted by United Fresh in February 1999 showed that 74 percent of New Zealanders were aware of the campaign and that 88 percent were familiar with the logo.

NORWAY

In Norway, the National Council on Nutrition and Physical Activity (NCNPA), previously called the National Nutrition Council, is a specialized administrative agency that operates under the auspices of the Ministry of Health and Social Affairs. In 1996, NCNPA prepared new recommendations for the consumption of vegetables and fruit. The recommendations advocated eating at least three vegetables (potatoes are included as vegetables) and two fruits every day, a total of 750 grams. To promote this goal, NCNPA enlisted the support of industry and volunteer organizations—most notably the Norwegian Fruits and Vegetables Marketing Board (NFVMB) and the Norwegian Cancer Society—to design various 5 A Day-type programs in order to increase knowledge and enhance availability of vegetables and fruit at schools and company cafeterias.

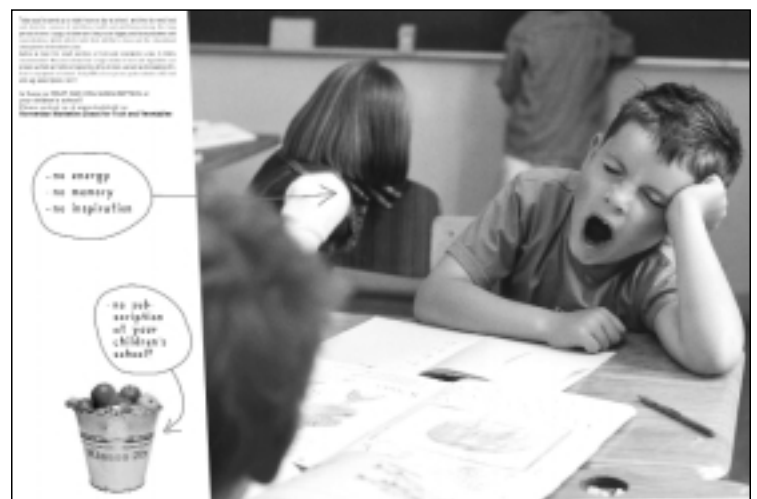
Awareness Campaign

In 1996, NCNPA, NFVMB, and the Norwegian Cancer Society joined forces to develop a campaign that focused on making adults aware of the disease-preventive properties of vegetables and fruit. The Fruits and Vegetables Against Cancer Campaign, launched in 1997, first used print advertisements, and in 1998 both print and television advertisements, to dramatize the benefits of vegetables and fruit in reducing the risk of developing cancer and to promote recognition of vegetables and fruit as delicious components of the diet. The specific messages of the advertisements were based on information obtained in consumer focus groups that explored the acceptability of various health statements.

Evaluation results of the 1997 print advertisements showed that the campaign attracted considerable interest and was perceived positively by most people. The evaluation was conducted by interviewing 200 adults across the four largest towns in Norway. To be included, respondents had to have children, who could be as old as 15, and had to have read the newspapers or magazines that ran the advertisements 2 weeks prior to the interview. Approximately 42 percent of respondents said that they had adopted a more positive attitude toward eating vegetables and fruit, and 35 percent responded that the campaign had persuaded them to buy more vegetable and fruit products. The level of knowledge about the correlation between vegetables and fruit and cancer incidence has been monitored through semi-annual marketing surveys. From the spring of 1996 to the autumn of 1998, the share of people who were aware of the correlation increased from 14 percent to 39 percent of the population.

School Efforts

In addition, a program that specifically targets the school system was initiated by NCNPA and NFVMB in the fall of 1997. The goal of the program is to ensure that Norwegian schoolchildren eat at least one vegetable or fruit during the school day. NCNPA drew up school-lunch guidelines, which emphasized that schools should offer vegetables and fruit on a subscription basis in the same way that they offered milk to students. As of the fall of 1999, the program had been implemented in nearly 35 percent of the schools that were approached (or 347 out of



1,000 schools). This constituted 11 percent of all primary schools in the country, of which there are about 3,150 (serving ages 6 through 15). As of the fall of 2000, 595 of the 3,150 primary schools (19 percent) are participating. In these schools, apples, bananas, and carrots, as well as oranges and clementines (when in season), can now be purchased by parents along with the usual cartons of milk. Surveys conducted in December 1999 with all participating schools and wholesalers indicated that as many as 50 percent of pupils are taking part in the program.

To support this effort, a marketing campaign called Fruits and Vegetables in the School has been undertaken in an effort to focus not only on schools but also on parents, health professionals, and industry representatives. To encourage participation in the program, each school receives a fruit basket at the beginning of the school year. Information is mailed to the students' parents, and advertisements for the program are used to increase consumer awareness. School-based curricula focusing on the benefits of vegetable and fruit consumption will be developed as well.

The partnership between NCNPA and NFVMB is collaborative at every level in this program, which is managed by a project manager at NFVMB and is supplemented by NCNPA efforts. Staff members from both organizations work together to prepare information materials, conduct information activities, and oversee media efforts. To ensure an effective distribution of responsibilities, NCNPA is in charge of lobbying politicians, schools, and the public health authorities, and NFVMB efforts are directed at schools and wholesalers. The project is funded by an annual allocation of approximately \$200,000 (U.S.) from the collective agricultural agreement between Norway's farmers and agricultural authorities. As of the year 2000, the project has been granted an additional \$750,000 in funding, which will serve to subsidize 20 percent of the price that pupils pay for subscription vegetables and fruit at school.

The success of the school program to date can be attributed to several key elements, including

- Extensive and strategic use of mass media combined with concurrent supportive community activities; and
- Practical measures to foster cooperation between the public health and school sectors.

Worksite Cafeteria Efforts

NCNPA and NFVMB have designed the Green Canteen program to educate worksite cafeteria staff about the importance of vegetables and fruit in the diet through the use of training courses, educational excursions, recipe collections, and media activities. The objective is to make all Norwegian businesses "greener," with vegetables and fruit occupying an essential place on the cafeteria menu, in meeting rooms (where rich pastries are typically served), and through a vegetable and fruit subscription for employees. Either the employees pay for the subscription themselves, or the worksite subscribes and pays for a basket of fruit to be shared among employees. An important subobjective for this project is to increase awareness in the work setting of the health significance of eating the recommended daily servings of vegetables and fruit and the ways that businesses can support this initiative. The project is particularly concerned with educating cafeteria staff, and corporate management and corporate health services are involved in this effort as well.

Evaluation

Data from two Norwegian dietary surveys led to national recommendations¹⁴ (at least three vegetables and two fruits every day, a total of 750 grams). One of the surveys, later called Ungkost, was conducted in the spring of 1993, using a random sample of 18-year-old students (n = 1,564, response rate of 87 percent) (Andersen et al., 1995). The second survey, later called Norkost, was conducted during June, September, and November 1993 and March 1994, using a

- A strong partnership between NCNPA and NFVMB;
- An annual allocation from the collective agricultural agreement between Norwegian farmers and agricultural authorities that subsidizes the price of vegetable and fruit subscriptions;

¹⁴ *The recommendations are in the Norwegian report, Recommendations for Increased Consumption of Fruits and Vegetables, published by the Norwegian Nutrition Council—August 1996. The recommendations are addressed in Johansson and Andersen (1998).*

random sample of 16- to 79-year-old Norwegians ($n = 3,144$, response rate of 63 percent) (Johansson and Andersen, 1998; Johansson et al., 1997). For both surveys, quantitative food-frequency questionnaires designed to measure the habitual intake of about 180 food items during the previous year were used to collect the dietary data. Depending on the food item, the frequency of consumption was given per day, per week, or per month and was converted to frequency of consumption per day. Units such as slices, glasses, deciliters, and spoons were used to describe portion sizes, which were then converted into weights on the basis of standard portions cited in *Measure and Weight for Foods* (Blaker and Aarsland, 1989; Johansson and Andersen, 1998).

The Ungkost survey data showed that young people ate vegetables and fruit less than 2.5 times a day, and the Norkost data showed that adults ate vegetables and fruit 3.1 times a day. The latter survey was repeated in 1997, the same year that the programs to increase vegetable and fruit consumption were initiated. Results showed a small increase in frequency of consumption to 3.2 times a day, with a higher frequency occurring among those in the older age groups than among the younger adults. The Ungkost survey of young people will be repeated in 2001.

Data on the volume changes of fresh vegetables, fruit, and potatoes purchased for cafeterias and catering outlets showed a 10-percent increase from 1997 to 1998. These findings, together with wholesalers' data (which also showed a small increase in the purchase of vegetables and fruit from 1994 to 1999), indicated that vegetable and fruit consumption is increasing. In addition, the findings indicate that it is appropriate to target youth and young adults in further efforts to increase consumption of vegetables and fruit. Some key elements contributing to the successes thus far include the following:

- The use of simple, positive health messages;
- The support of the established scientific community to lend credibility to campaign messages and activities;
- Financial support from the government; and
- An environment that supports the availability of vegetables and fruit as well as ongoing campaign efforts to promote their consumption.

SWEDEN

The Fruit and Vegetable Marketing Board (FVMB) is owned by Swedish produce importers and producers. FVMB has been developing and disseminating information about fresh produce for 30 years and works with teachers and other educators to instruct people on how to purchase, store, and prepare vegetables and fruit.

During 1999, inspired by the U.S. 5 A Day Program, FVMB started work toward launching a program in Sweden. On October 19, 1999, the Fruits and Vegetables Every Time You Eat program was initiated. Instead of citing a specific number of daily vegetable and fruit servings, FVMB recommends consuming at least $\frac{1}{2}$ kilogram (500 grams or about 1 pound) of fresh produce (excluding potatoes) every day. Daily per capita consumption of fresh produce in Sweden is currently about 350 grams. It is anticipated that meeting the goal of 500 grams per day will take several years to achieve.

The program uses the compelling desire for good health as a strong motivator to encourage Swedes to eat more vegetables and fruit. In support of this approach, FVMB works with the National Food Administration, the National Institute of Public Health, the Swedish Cancer Society, the Heart and Lung Foundation, and national sports organizations.

The budget for the Fruits and Vegetables Every Time You Eat program is small, because FVMB must work with the same budget that existed before the program was initiated. As a result, FVMB works with key contacts throughout Sweden that are influential with several target groups, including schoolchildren, hospital and other health institution workers, and food-service industry workers (e.g., hospitals, restaurants, catering).

One of the most important program targets is the school cafeteria, where pupils (from ages 6 to 15) eat lunch each school day. It has been shown that if students first are offered vegetables in the cafeteria line, then potatoes/pasta, and thereafter meat or fish, they seem to eat more vegetables (Sundström, 1999). The vegetables tend to be less



expensive than many of the other available foods, besides offering important health benefits.

To foster program recognition, FVMB prints the program slogan and logo on all its materials. The vegetable and fruit retailers are encouraged to use and display the program logo and slogan in their operations, and the vegetable and fruit trade is encouraged to use the slogan and logo in ads, pamphlets, and other printed materials so that the message is exposed in different venues.

In March 2000, FVMB, along with other organizations collaborating on the Fruit and Vegetables Every Time You Eat program, initiated a series of successful conferences in eight locations throughout Sweden. The main goals of these conferences were to begin to cultivate local support and collaborations and to build a network of key contacts throughout the country to assist in gaining publicity for the program and in reaching target audiences. This type of cooperation will greatly facilitate FVMB's ability to reach more people with a limited budget. These efforts also will ensure that there are frequent program activities going on throughout Sweden and that the program's message is presented to the mass media from a variety of perspectives, as represented by those in the network. Numerous conferences that will incorporate presentations on the Fruits and Vegetables Every Time You Eat program are planned to take place in the fall of 2000 in various locations throughout the country.

SUMMARY

As international 5 A Day-type programming continues to develop, and as the programs already in existence progress and expand to meet the needs of the world's citizens, measurements of success will become increasingly more refined. At this point, limited opportunities are available for measuring success (e.g., quality and quantity of partnerships, amount and degree of industry support, and population awareness of the message). But researchers eventually may be able to document a direct connection between the success of 5 A Day-type programming, increased consumption of vegetables and fruit, and decreased rates of cancer incidence throughout the world.

What is clear through the analysis of anecdotal reports is that programs are more likely to succeed if they have a broad range of partnerships that includes major players—government, health organizations, industry sources, and private enterprise. Each partner contributes a critical component, and together these partnerships take the lead in ensuring adequate, long-range funding for ongoing efforts.

Some important outcomes of international 5 A Day-type programs will be increased connections and coordination between countries, scientists, industry representatives, and education and nutrition specialists. Decades from now, the 5 A Day effort may well be global in scale; a century from now, it may no longer be needed. As a more global society evolves, international efforts—with their strong ties to the U.S. program—will likely increase in momentum. New initiatives are constantly in development, and judging from the number of inquiries and requests for support and guidance that the U.S. program has received, within a few years, the international picture is likely to have changed dramatically. Someday, it seems clear, 5 A Day-type programming will become a worldwide effort, and the time can be envisioned when the world's citizenry—especially future generations—will be healthier because of it.

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